

# Notice No.1

## Rules for the Classification of Stern First Ice Class Ships July 2019

The status of this Rule set is amended as shown and is now to be read in conjunction with this and prior Notices. Any corrigenda included in the Notice are effective immediately.

Please note that corrigenda amends to paragraphs, Tables and Figures are not shown in their entirety.

Issue date: November 2019

Amendments to	Effective date	IACS/IMO implementation (if applicable)
Chapter 3, Section 2	Corrigendum	N/A
Chapter 4, Section 2	Corrigendum	N/A
Chapter 6, Section 2	Corrigendum	N/A



# Chapter 3

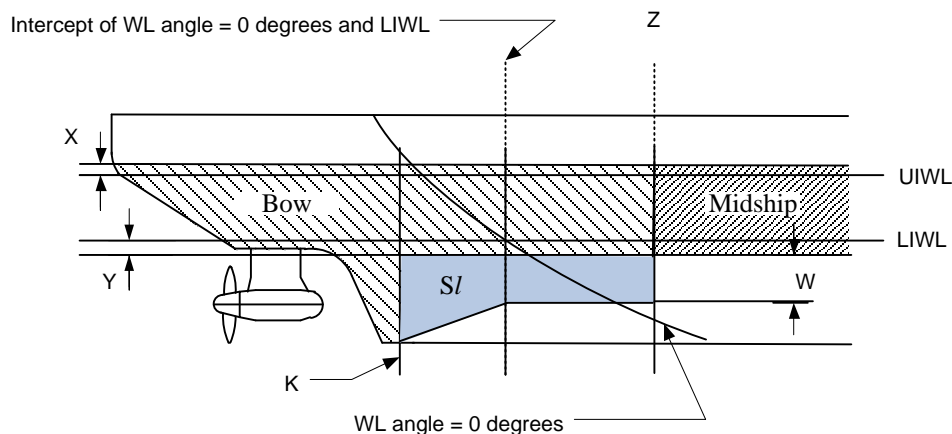
## Ship Structures

### Section 2

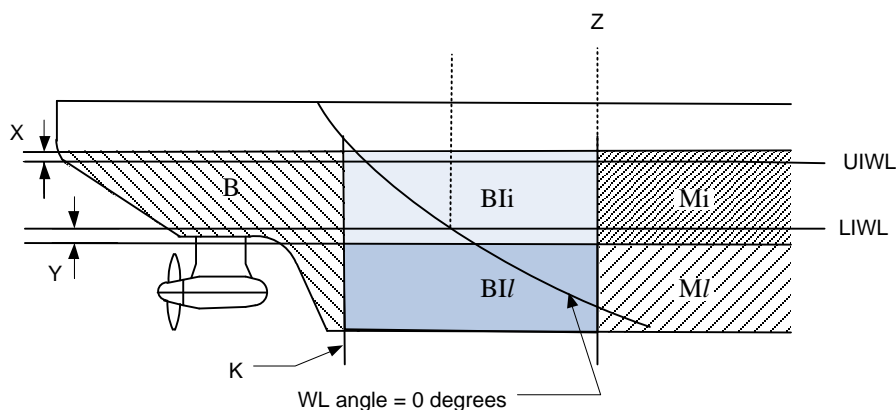
### Application of ice class to hull structures

#### 2.4 Stern hull areas

Existing Figure 3.2.3 has been deleted in its entirety and replaced with below.



(a) Stern First Ice Class Ship stern designed to FS Rules



(b) Stern First Ice Class Ship stern designed to PC Rules

**B** = bow region  
**Bli** = bow intermediate ice belt region  
**Bli** = bow intermediate lower region  
**Bli** = bow intermediate bottom region  
**Mi** = midbody ice belt region  
**Mi** = midbody lower region  
**Mb** = midbody bottom region  
**Bow** = Bow region  
**Midship** = midship region  
**SI** = lower shoulder region

**K** = extent of bow region, see Note 1.  
**W** = lower extent of lower shoulder region  
 = 2,5 m below the lower extent of the ice belt, or  
 to a horizontal line from the centre of the propeller shaft line,  
 whichever greater extent  
**X, Y** = upper and lower extents of ice belt, to be taken as:

	X	Y
PC1-PC4 inclusive	1,5 m	1,0 m
PC5-PC7 inclusive	1,0 m	1,0 m
1AS FS	0,6 m	0,75 m
1A FS	0,5 m	0,6 m
1B FS	0,4 m	0,5 m

**Z** = extend of bow intermediate region for PC Rule application or  
 shoulder region for FS Rule application, see Note 2.

Note 1. Ch 3, 2.4 Stern hull areas 2.4.5

Note 2. Ch 3, 2.4 Stern hull areas 2.4.7

Figure 3.2.3 Ice-strengthening extents for stern



## Chapter 4 Main and Auxiliary Machinery

### ■ Section 2 Propulsion units

#### 2.5 Load calculations

**Table 4.2.3 Bearing axial and tangential ice loads using simplified blade break force for initial dimensioning**

where

$R_1$  = Radius at root section, in mm

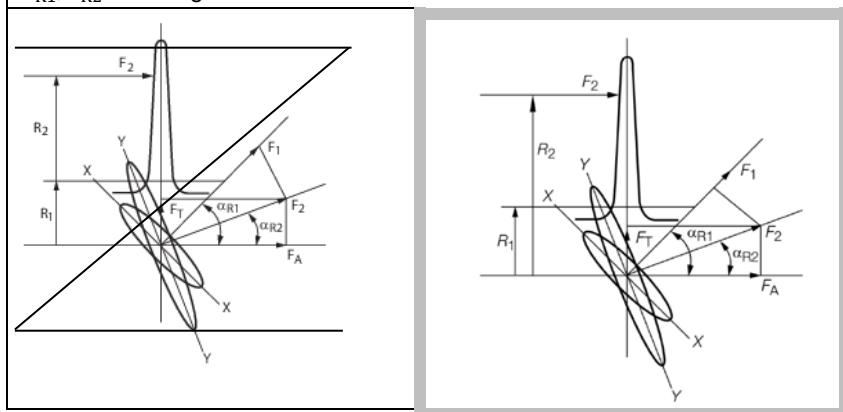
$$R_2 = \left[ \frac{2}{3} (R - R_1) \right] + R_1 \text{ mm}$$

$R$  = propeller radius, in mm

$C_t t^2$  = actual value of blade section (chord length and thickness) at  $R_1$  cm<sup>3</sup>

$\sigma_M$  = minimum specified tensile strength of propeller material, in N/mm<sup>2</sup>

$\alpha_{R1}, \alpha_{R2}$  = see Figure below



## Chapter 6 Direct Calculations and Non-Standard Load Scenarios

### ■ Section 2 Framework for non-standard load scenarios

#### 2.1 General

2.1.1 This Section provides a framework for the determination and application of ~~non-load scenarios~~ non-standard load scenarios to ships operating in ice using directional thrust propulsion units, where the operation of the ship/unit differs from that usually assumed from the standard loads scenarios for a Stern First Ice Class Ship indicated in *Ch 2 Operational and Load Scenarios*.



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